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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,140	02/20/2004	Robert W. Venderbosch	133113-2	7087

7590 08/26/2004  
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EXAMINER

BOYKIN, TERRESSA M

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/783,140	Applicant(s) VENDERBOSCH ET AL.	
	Examiner Terressa M. Boykin	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-4, 11, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 5-10 and 12-16 is/are objected to.
- 8) ☒ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Claims 1-4, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6066700 see abstract, col. 1 line 10 through col.4 line 58, examples and claims 1,6, and 7.***

US 6066700 discloses a process for the production of polysiloxane/polycarbonate block cocondensation products is disclosed. The process comprises reacting in the melt at temperatures of 250 to 320.degree. C. and pressures of 0.01 to 100 mbar (a) a hydroxyaryloxy-terminated dimethylsiloxane with (b) an oligocarbonate. The oligocarbonate is characterized in that its weight average molecular weight is 3000 to 24000 and the molar ratio of its OH end groups to aryl end groups is 10:90 to 70:30. The weight ratio of said (a) to said (b) in the inventive process is between 1:99 and 40:60. Also disclosed are the products prepared by the process. The present invention provides a process for the production of polysiloxane/polycarbonate block co-condensation products

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from phenolic compounds and diaryl carbonates in a melt at temperatures of 250 C. to 320 C., preferably of 280 C. to 300 C., and pressures of 0.01 mbar to 100 mbar, optionally in the presence of a catalyst, which process is characterized in that the phenolic compounds used are hydroxyaryloxy-terminated dimethylsiloxanes and, instead of diaryl carbonates, oligocarbonates are used prepared from diphenols having average molecular weights  $M_w$  (weight average, determined by measuring relative solution viscosity in CH<sub>2</sub>Cl<sub>2</sub> in the known manner, wherein calibration is performed using the light scattering method) of 3000 to 24000, preferably of 5000 to 15000, and having OH/aryl end group ratios of 10:90 to 70:30, preferably of 20:80 to 60:40, wherein the weight ratio between the hydroxyaryloxy-terminated dimethylsiloxanes to the oligocarbonates is between 1:99 and 40:60, preferably between 3:97 and 30:70.

The process provides a means of which polysiloxane/polycarbonate block copolymers are obtainable by a melt transesterification process, i.e., without using organic solvents, wherein, for the purposes of the mechanical properties, the siloxane blocks should be largely uniformly distributed within the PC matrix.

With regard to claims 2, 3, and 4 note that the reference discloses that the production of other, hydroxyaryloxy-terminated dimethyl-siloxanes to be used according to the invention.

With regard to claims 17 note that quantities of up to 6 wt. % of fillers and reinforcing materials may be added to the polysiloxane/polycarbonate block co-condensation products obtainable using the process according to the invention. Those stabilizers for example UV, heat and agents and flame retardants suitable for thermoplastic polycarbonates may also be added. Examples are alkyl phosphites, aryl phosphites, aryl phosphates, aryl phosphones, low molecular weight carboxylic acid esters, halogen compounds, chalk, silica flour, glass fibers and carbon fibers.

***Claims 1-4, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6625379 see abstract, col 2 line 5 through col. 6 line 20, examples 1, 5 and 7 and claims 2 and 7.***

**US 6625379** discloses a light-conducting plate which comprises a transparent resin containing a carbonic acid gas and which has a carbonic acid gas content of from 0.01 to 2% by weight based on the weight of the light-conducting plate. The plate used in a planar light emitting device exhibits increased luminance, improved luminance uniformity, and reduced color unevenness. Also disclosed is a method of producing the light-conducting plate.

Particularly, the light-conducting plate according to the above item (1) comprises a transparent resin is selected from methacrylic resins, polycarbonate resins and cyclic olefin resins. The material for the light-conducting plate of the invention is not particularly limited as long as it is transparent. Taking light-scattering properties into consideration, materials mainly comprising a transparent resin are preferred. Transparent resins having a total light transmittance of 30% or more at a thickness of 3 mm as measured according to ASTM D-1003 are usually used. Such transparent resins preferably include methacrylic resins, polycarbonate resins, cyclic olefin resins, styrene resins, blends comprising at least one of these resins, and compositions comprising at least one of these resins.

The polycarbonate resins which can be used in the invention include polymers derived from dihydric phenol compounds represented by bisphenol A. The process for producing the polycarbonate resins is not restricted and includes a phosgene process, ester interchange, and solid phase polymerization. Polycarbonate resins having a terminal hydroxyl group in a proportion of 1 to 30

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mol % based on the whole terminal groups are particularly preferred. Such polycarbonate resins produce a hydrogen bond between the terminal OH group and a carbonic acid gas so that the carbonic acid gas may exist in the resin stably for an extended period of time without dissipation. Since large proportions of the terminal hydroxyl group tend to deteriorate thermal stability of the polycarbonate resins, a more preferred proportion of the terminal hydroxyl group is 1 to 15 mol %, particularly preferably from 3 to 13 mol %, most preferably from 5 to 11 mol %. The proportion of the terminal hydroxyl group can be measured by NMR.

The light-conducting plate may contain particles. The particles which can be added include particles causing light-scattering by making use of a refractive index difference (hereinafter referred to as fine particles (I)) and particles causing light-scattering by making use of irregular reflection (hereinafter referred to as fine particles (II)). The fine particles (I) include crosslinked organic polymer beads, such as those of acrylic polymers, styrene-acrylic polymers or polyethylene, and crosslinked silicone polymer beads, such as those of polysiloxane. The particles (II) include inorganic particles, such as glass, silicone, titanium oxide or calcium carbonate particles. The fine particles (I) and (II) can have a spherical shape, an acicular shape, a flaky shape or a nearly spherical shape. The fine particles (I) preferably have an average particle size of 0.1 to 100  $\mu\text{m}$ , particularly 1 to 50  $\mu\text{m}$ , especially 1 to 20  $\mu\text{m}$ . The fine particles (II) preferably have an average particle size of 0.1 to 30  $\mu\text{m}$ , particularly 1 to 10  $\mu\text{m}$ . The difference in refractive index of the fine particles (I) from the base material (matrix) of the light-conducting plate, which governs their performance, is preferably within  $\pm 0.1$ . It is particularly preferred that the refractive index of the fine particles (I) be lower than that of the matrix by 0.003 to 0.1. Organic silicone-based crosslinked beads, which are polysiloxane series, are especially

preferred; because they are spherical, which is advantageous for uniform light scattering, and have a smaller refractive index than the matrix, which is advantageous for front scattering. The fine particles (I) and (II) are preferably used in a concentration of 1 to 10,000 ppm, particularly 1 to 5,000 ppm. These fine particles may be used alone or as a mixture of two or more kinds thereof. Note section II) Preparation of Polycarbonate Resins (Transparent Resins E and F) .

***Claims 11, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5916980 see abstract, examples and table 4.***

With regard to claims 11 and 18 note that US 5916980 discloses a polycarbonate resin composition of the present invention is a resin composition in which a novel polymer having a grafted siloxane structure and optionally an ordinary silicone (diorganopolysiloxane) are co-dissolved, and which provides a novel polycarbonate for molding materials and as a raw material for polymer alloys. The polycarbonate resin composition of the present invention has excellent transparency and abrasion resistance in comparison with a conventional siloxane co-polymerized polycarbonates or a diorganopolysiloxane-containing polycarbonate, and is applicable to a transparent molded article, such as a lens or a light cover where abrasion resistance is required. Furthermore, by using wet molding, a transparent molded article having a smooth surface and good slipping properties can be obtained. Moreover, the resin composition of the present invention is very appropriate for use as a functional film, such as an OHP film, etc.

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The reference discloses the following:

Transmittance: measured using the Haze meter HM-100 (ASTM D-1003) made by Murakami Color Research Laboratory Co., Ltd. The transmission rate of all light rays was measured.

See also Table 4

***Claims 11 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by US 20040132865 see abstract and table 1.***

**US 20040132865** discloses a method for reducing haze in fire resistant polycarbonate compositions, comprising: blending flame retardant salt with a first polycarbonate to produce a concentrate, wherein the flame retardant salt comprises is selected from the group consisting of potassium perfluoromethylbutane sulphonate, potassium perfluoromethane sulphonate, potassium perfluoroethane sulphonate, potassium perfluoropropane, potassium perfluorohexane sulphonate, potassium perfluoroheptane sulphonate, potassium perfluorooctane sulphonate, potassium diphenylsulfone sulphonate, and mixtures comprising at least one of the foregoing flame retardant salts; pelletizing the concentrate; and, blending the pelletized concentrate with a second polycarbonate and a cyclic siloxane to form a fire resistant polycarbonate composition.

Note TABLE 1:

Component Example 1, Example 2 Polycarbonate resin, MW 21,800 64.35  
54.45 Polycarbonate resin, MW 30,500 35 35 Octaphenyltetrasiloxane 0.1 0.1



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Pentaerythritol stearate 0.35 0.35 KPFBS 0.1 -- Phosphite stabilizer 0.1 0.1

Concentrate (1 wt. % KPFBS) -- 10 Properties MVR 15.1 15.2 % Transmittance

(2.5 mm) 90.5 90.7 YI (2.5 mm) 1.6 1.5 Haze 1 0.9 % Transmittance (3.2 mm)

90.2 90.5 YI (3.2 mm) 1.9 1.7 Haze (3.2 mm) 1.6 0.7 UL-94 (3.2 mm) V-0 V-0

Comparative

### **Objected Claims**

Claims 5-10 and 12-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Correspondence**

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

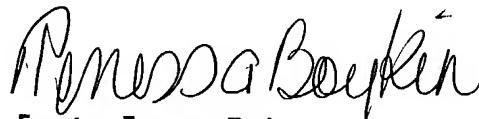
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is ( 571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

A handwritten signature in black ink, reading "Terressa Boykin". The signature is fluid and cursive, with the first name "Terressa" and last name "Boykin" clearly distinguishable.

Examiner Terressa Boykin  
Primary Examiner  
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